

REPORT ON BOILERS.

No. 99827

8 OCT 1941

Received at London Office

NEWCASTLE-ON-TYNE

Date of writing Report

10

When handed in at Local Office

4/10/41

Port of

No. in Reg. Book

Survey held at

Wallsend.

Date, First Survey

24 March

Last Survey

30 Sept

1941.

(Number of Visits)

(Gross Tons)

(Net Tons)

36274

on the

S.S. EMPIRE WYCLIF

Master

Built at

Sunderland

By whom built

Short Bros Ltd

Yard No.

467

When built

1941

Engines made at

Wallsend.

By whom made

N.E. Marine Eng Co (1938) Ltd

Engine No.

3006

When made

1941

Boilers made at

By whom made

Boiler No.

3006

When made

1941

Nominal Horse Power

Owners Ministry of War Transport

Port belonging to

Sunderland.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Steel Co of Scotland Ltd.

(Letter for Record S)

Total Heating Surface of Boilers

5730.

Is forced draught fitted

yes

Coal or Oil fired

coal

No. and Description of Boilers

2 S.B.

Working Pressure

220

Tested by hydraulic pressure to

380

Date of test

18.8.41

No. of Certificate

907.

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

67½"

No. and Description of safety valves to each boiler

1 Double.

Area of each set of valves per boiler

per Rule 15.25

as fitted 16.6

Pressure to which they are adjusted

225.

Are they fitted with easing gear

yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler

✓

Smallest distance between boilers or uptakes and bunkers or woodwork

5'-0"

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

2'-6"

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

15'-11 5/16"

Length

12'-4 1/2"

Shell plates: Material

Steel

Tensile strength

29-33

Thickness

1 17/32"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

D.R.

long. seams

T.R. D.B.S.

Diameter of rivet holes in

circ. seams

1 9/16"

Pitch of rivets

4 1/8"

10 3/16"

Percentage of strength of circ. end seams

plate

62.1

rivets

48.4

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate

85.5

rivets

86

combined

88.2.

Working pressure of shell by Rules

Thickness of butt straps

outer

1 3/16"

inner

1 5/16"

No. and Description of Furnaces in each Boiler

3 cf.

Material

Steel

Tensile strength

26-30

Smallest outside diameter

47 1/4"

Length of plain part

top

✓

bottom

Thickness of plates

crown

4 7/16"

bottom

Description of longitudinal joint

weld.

Dimensions of stiffening rings on furnace or c.c. bottom

✓

Working pressure of furnace by Rules

End plates in steam space: Material

Steel

Tensile strength

26-30

Thickness

1 1/2"

Pitch of stays

28" x 20 13/16"

How are stays secured

Double nuts.

Working pressure by Rules

17 1/16"

Tube plates: Material

front

Steel

back

Tensile strength

26-30

Thickness

17 1/16"

7/8"

Mean pitch of stay tubes in nests

8.7"

Pitch across wide water spaces

14 1/2" x 7 1/2"

Working pressure

front

back

Girders to combustion chamber tops: Material

Steel

Tensile strength

29-33

Depth and thickness of girder

at centre

11 1/2" x 1" double

Length as per Rule

46 1/2"

Distance apart

8 1/2"

No. and pitch of stays

in each

32

11 1/2"

Working pressure by Rules

Combustion chamber plates: Material

Steel

Tensile strength

26-30

Thickness: Sides

25 3/32"

7 5/16"

Back

25 3/32"

Top

28 1/4"

7 5/16"

Bottom

29 3/32"

Pitch of stays to ditto: Sides

11 1/8" x 8 1/2"

7 8/16"

Back

10 1/2" x 9 1/8"

Top

11 1/8" x 8 1/2"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

Front plate at bottom: Material

Steel

Tensile strength

26-30

Thickness

17 1/16"

Lower back plate: Material

Steel

Tensile strength

26-30

Thickness

3 1/32"

Pitch of stays at wide water space

15 1/8" x 10 1/2"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

Main stays: Material

Steel

Tensile strength

28-32

Diameter

At body of stay,

or

Over threads

3 1/2"

No. of threads per inch

6

Area supported by each stay

Working pressure by Rules

Screw stays: Material

Steel

Tensile strength

26-30

Diameter

At turned off part,

or

Over threads

1 3/4" 1 1/8" + 2"

No. of threads per inch

9

Area supported by each stay

26-30

Working pressure by Rules
No. of threads per inch 9
Tubes: Material SD Steel
Pitch of tubes 3 3/4" x 3 3/4"
shell plate None
Outer row rivet pitch at ends
Tensile strength
Diameter of rivet holes
Internal diameter
How connected to shell
Are the stays drilled at the outer ends No
Area supported by each stay
External diameter Plain 2 1/2"
Working pressure by Rules
Section of compensating ring
Depth of flange if manhole flanged
Thickness of shell
Pitch of rivets
Working pressure by Rules
Inner radius of crown
Size of doubling plate under dome
Margin stays: Diameter { At turned off part, or Over threads 2 1/2"
Working pressure by Rules 8456
Thickness 7/16" x 3/8"
No. of threads per inch 9
Manhole compensation: Size of opening in
No. of rivets and diameter of rivet holes
Steam Dome: Material None
Description of longitudinal joint
Percentage of strength of joint { Plate Rivets
Thickness of crown
No. and diameter of
Working pressure by Rules
Diameter of rivet holes and pitch
of rivets in outer row in dome connection to shell
Type of Superheater None
Manufacturers of { Tubes Steel forgings Steel castings
Number of elements
Material of tubes
Internal diameter and thickness of tubes
Material of headers
Tensile strength
Thickness
Can the superheater be shut off and
the boiler be worked separately
Is a safety valve fitted to every part of the superheater which can be shut off from the boiler
Area of each safety valve
Are the safety valves fitted with easing gear
Working pressure as per
Rules
Pressure to which the safety valves are adjusted
Hydraulic test pressure:
tubes forgings and castings and after assembly in place
Are drain cocks or
valves fitted to free the superheater from water where necessary
Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes

The foregoing is a correct description,
THE NORTH EASTERN MARINE ENGINEERING CO. (1938) LTD.
John Neill
Manufacturer.

Dates of Survey { During progress of work in shops - - - }
while building { During erection on board vessel - - - }
See Machinery Report
Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
Total No. of visits

Is this Boiler a duplicate of a previous case Yes. If so, state Vessel's name and Report No. Empire Burton

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been made & installed under Special Survey in accordance with the approved Plan, the Specification & the Requirements of the Rules

The materials & workmanship are good. & the boilers proved sound & tight under hydraulic & steaming tests.

Survey Fee ... £ See Machinery Report
Travelling Expenses (if any) £
When applied for, 19
When received, 19

R. C. Moffatt
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute
Assigned
FRI. 17 OCT 1941
See Std. J.C. 33218